

### REMARKS

Claims 1-62 are pending in the application. Claims 51-56 are withdrawn from consideration, as being drawn to a non-elected invention. Applicants reserve the right to prosecute subject matter recited in these claims in one or more continuation applications. The paragraph beginning on page 64, line 13 was amended to make the first sentence a proper sentence. Claims 1, 6-8, 13, 16, 19, 22, 25, 28, 31, 37, 41-43, 48, 57 and 60 are currently amended. No new matter is presented by these amendments. Accordingly, Applicants respectfully request entry thereof and reconsideration of claims 1-50 and 57-62 in light of the following remarks.

#### § 112 Rejections

On pages 3-4 of the Action, the Action rejects claims 1-36, 43, 45, 48-50, 57-62 under 35 U.S.C. § 112 for being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 1, 43, 57 and 60, the Action alleges that there is insufficient antecedent basis for the claimed feature “the waist region that includes the connection mechanism.” Action, page 3. Applicants have amended the claimed feature to recite “the waist region *adjacent* the connection mechanism” (emphasis added), which has proper antecedent basis. Applicants respectfully request reconsideration and withdrawal of this rejection.

Regarding claims 13, 28, 34, 48, 57, and 60, the Action alleges that there is insufficient antecedent basis for the claimed feature “the number of stages.” Action, page 3. Applicants submit that “the number of stages” pertains to the number of stages (sizes) within a range of stages used by newborn, walking or crawling babies. This range of stages is what is tested to determine the claimed properties for newborn, walking or crawling babies. Support for this assertion may be found on pages 43 and 44 of the specification:

The above-mentioned dimensions and stretching tests typically are conducted on a number of articles having various sizes, or stages. Overall stretching characteristics for groups of stages then can be

determined based on the average of the stretching characteristics taken over the range of stages tested. For example, for absorbent articles for newborn babies, stages 0, 1 and 2, it is preferred in the present invention that the maximum stretchability of the circumference of the waist region that contains the connection mechanisms is greater than about 185%

...

For absorbent articles for crawling babies, stages 3 and 4, it is preferred in the present invention that the maximum stretchability is greater than about 175%, and for walking babies, stages 5 and 6, it is preferred in the present invention that the maximum stretchability is greater than about 175%. Thus, for the 800 gram force, there will be a MaxStretch value for the newborn babies, crawling babies, and walking babies stages of the garment tested, whereby the MaxStretch is essentially the average of the Maximum Stretchabilities over the range of stages.

Specification, page 43, line 6 to page 44 line 6. (*See also*, page 44, lines 23-25).

Applicants submit that it is clear from the feature of the embodiment described in the specification, that for a claimed property pertaining to newborn babies, the number of stages contemplated is 3 (stages 0, 1 and 2); for crawling babies, the number of stages is 2 (stages 3 and 4); and for walking babies, the number of stages is 2 (stages 5 and 6). Applicants submit that as stated "the number of stages" properly connotes the number of stages within a range of stages of a particular product line suitable for the claimed group of users. However, Applicants are also amenable to any recommendation by the Examiner regarding alternative language to define this aspect of the invention, if the Examiner would be inclined to offer some suggestions. Otherwise, Applicants request reconsideration and withdrawal of this rejection.

In the Action, claims 13-15, 28-30, 34-36, 48-50, and 57-62 are rejected under 35 U.S.C. § 112, second paragraph, because "these claims disclose the stretchabilities of diapers for newborn babies, crawling babies and walking babies. Are these the stages that are being disclosed in claims 13, 28, 24, 48, 57 and 60 and if they are... how can one get the maximum stretchability for different stages?" Action, pages 3-4. Applicants submit that it is clear from the specification (*see*, pages 43-44 cited above) that "diapers for newborn babies" encompasses those product stages which one of ordinary skill in the art would associate with users who are newborn babies; and likewise for crawling babies and walking babies. Thus, in the feature of the

embodiment described in the specification, the stages associated with newborn babies are stages 0, 1 and 2; crawling babies, stages 3 and 4; and walking babies, stages 5 and 6. Further, the Applicants clearly define how to calculate the MaxStretch for diapers for newborn, walking and crawling babies, using the following equation found both in the specification and the claims:

$$MaxStretch = \frac{\sum_{n=1}^n (MaxCirst / MnCirun) \times 100}{n}$$

Specification, page 43, line 16. Applicants submit that it is clear how to calculate MaxStretch for newborn, walking and crawling babies, based on the language of the claims, when read in light of the specification. Again, Applicants are amenable to suggestions by the Examiner for alternative claim language that defines this aspect of the invention, if the Examiner would be inclined to offer some suggestions. Otherwise, Applicants respectfully request reconsideration and withdrawal of this rejection.

#### § 102 Rejections

On pages 4 and 5 of the Action claims 1-12, 16-27, and 37-47 are rejected under 35 U.S.C. §102(b) as being anticipated by Roe, *et al.*, U.S. Patent No. 5,749,866 (“Roe”). Applicants respectfully traverse this rejection.

With respect to claims 1-3, 6-12, 19-21, 37, 38, and 41-47, the Examiner alleges that Roe discloses an absorbent article having a “back waist region [that] stretches 50% (therefore 150% of its original length) with 5g/cm force (column 12, lines 2-4). Therefore if an 800 gram force is applied to a 4 inch wide cut portion (...79g/cm), then it is the examiner’s position that the waist regions will stretch more than 50% (150 [%] its original length).” Action, pages 4-5. It appears from the statements made in the Action that the Examiner is taking the position that the stretchability characteristics recited in the pending claims are inherent in Roe’s disclosure. Applicants respectfully disagree. To be inherent, a claimed property must “necessarily flow” as a “matter of certainty” from the applied prior art. *Ex Parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). The claimed

stretchability characteristics do not necessarily flow as a matter of certainty from Roe's disclosure.

The back waist feature (32) of Roe comprises several discrete panels: "a central waistband panel 34; a pair of side panels 36; and a hip panel 38." Roe, col. 11, ll. 10-12 and Figure 1. The preferred extension force at 50% extension for the hip panel is 5g/cm, for the waistband panel is 15-20g/cm, and for the side panel is 10-15g/cm. Roe, col. 12, ll. 2-4, col. 13, ll. 13-14, and col. 15, ll. 39-41. The disclosed properties are based on the discrete panel material only, and not for the material as laminated to, or as a component of the entire back waist region. Roe teaches that the "tensile test is used for measuring extension force... of a material." Roe, col. 38, ll. 23-24. In this method, "[t]he samples used for this test are 1" wide x 4" long." Roe, col. 38, ll. 35-36. Roe fails to disclose the measurement of the extensibility properties of a waist region of an absorbent article, represented by a 4-inch laterally cut portion of the waist region, including all discrete panels located therein.

In contrast, the Applicants' claimed invention pertains to stretchability of a composite waist region of an absorbent article. For example, Figures 1, 2 and 3 show the waist region (420) of a diaper that has mechanical fastening tabs (52). Waist region 420 is defined on its perimeter by the waist edge (32), a lateral cut that is 4-inches from the waist edge, side edges (320, 340) and mechanical fasteners and gripping regions (52,54). The waist region includes the backsheet 22, topsheet 24, waist elements 50, tab elements 52 and 54, and may include a portion of the absorbent core 26, and all other components located within and on the 4-inch waist region. In order to determine the stretchability of the waist region, a lateral stretching force is applied between the lateral-most edges of the waist region, *i.e.* the gripping connectors 54, and the laterally-stretched dimensions of the waist region are determined. *See* Application, pages 35-38. Applicants submit that the stretchability of the waist region is affected by all of the components of the waist region, whether elastic or inelastic. In other words, the elasticity of the overall waist region is limited by the least elastic components of the waist region. One of ordinary skill in the art would recognize that traditional diaper components such as the topsheet and backsheet are not stretchable,

especially when laminated in a diaper, and the inelasticity of these components limits the stretchability of the waist region. Thus, while the waist region of a diaper may include a waist panel having an extensibility of 150%, the other elements of the waist region, such as the topsheet and backsheet, and perhaps the absorbent core, may limit the stretchability of the waist region to much less than 125%.

While Roe teaches the stretchability of discrete elastic components that comprise a waist region, Roe fails to teach the stretchability of a waist region comprising a 4-inch laterally-cut section of the waist adjacent to the connector tabs. Nor is the stretchability of the waist region inherent to the absorbent article of Roe, *i.e.*, it does not necessarily flow from the teachings of Roe. *Ex Parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). For example, the claimed properties of the present invention are necessarily determined on the stretchability of a 4-inch wide laterally cut portion of the waist region, adjacent to and including the connection mechanisms. Roe discloses the following preferred longitudinal dimensions of the discrete panels of the waist region of a diaper: the side panel is 57mm long, the central waistband panel is about 30mm long, and the hip panel is 65mm long. Roe, col. 15, ll. 7-9, col. 13, ll. 48-49, and col. 12, ll. 19-20. Thus, the combined longitudinal dimension of the preferred hip and waist panels of Roe are 95mm, or approximately 3  $\frac{3}{4}$  inches. If the diaper of Roe were cut according to the present invention to produce a 4-inch laterally cut waist region, a longitudinal  $\frac{1}{4}$  inch would consist of inelastic chassis material ("the chassis panel 22 is typically not extensible." Roe, col. 6, ll. 11-13). Applicants submit that stretchability of the 4-inch laterally cut portion of the waist region is therefore limited by the least elastic member of the waist region, which, in the embodiments disclosed in Roe, is the  $\frac{1}{4}$  inch of inelastic chassis material. This  $\frac{1}{4}$  inch of material extends from edge to edge of the backsheet. Even if one assumes that the chassis material is comprised of the base material in the disclosed SELF web ("In the embodiment of the present invention shown in Fig. 1, the hip panel 38 comprises a portion of the topsheet 24 and a portion of the backsheet 26 formed into a SELF web" Roe, col. 12, ll. 50-53), the properties of which are disclosed in the upper curve of Figure 6, then at approximately 800 g/4 inches (or 200g/inch), the % Elongation of the material is, at most, 10%. Thus, although a waist

region may contain stretch panels that independently stretch 50% or more, inclusion of this inelastic region in the 4-inch waist region reduces the overall stretchability of the composite waist region, most likely to as low as the stretchability of the inelastic region itself.

Further, Roe discloses lateral dimensions of the stretchable panels in a preferred embodiment of a size large diaper: the central waistband panel and the hip panel are 180mm wide, and the side panels are 63mm wide. Roe, col. 12, ll. 17-20, col. 13, ll. 46-50, and col. 15, ll. 6-9. Roe fails to disclose the lateral dimensions of any inelastic regions in the back waist region. Roe also fails to disclose the overall lateral dimensions of the back waist region including both elastic and inelastic regions. One of ordinary skill in the art would recognize that historically, size large diapers are significantly wider than 180mm, sometimes about 350mm. Thus, in the described preferred embodiment, the central waistband panel and the hip panel do not extend the entire width of the backsheet. Using the test method disclosed in the present invention (ignoring any contribution of the ¼-inch inelastic portion described above), and assuming that the central waistband panel stretches to 150% (or to 270mm), the stretchability of a 300mm wide waist region would be at best only about 125%. Accordingly, the Applicants submit that Roe does not inherently disclose the stretchability characteristics recited in the claims, and consequently, Roe can not anticipate the present claims.

A feature of an embodiment of the present invention is recognizing that each component of a waist region contributes to or limits the stretchability of the composite waist region. One can combine multiple materials, and multiple components (both stretchable and unstretchable) and achieve a desired stretchability or fit of the finished product. "Each of the components of article 20 described above cooperate with one another to impart the desired stretchability. It is preferred that topsheet 24, backsheet 22, absorbent core 26, and waist elements 48, 50 be designed to provide the requisite stretching characteristics. Various elastic materials may be disposed or otherwise intertwined within or between these components to impart the desirable characteristics." Application, page 26, lines 14-19. The applicants have developed a

new way of measuring the stretchability of the waist region and circumference of the waist region of an absorbent article, as it applies to the fit. Further, the applicants have quantified the desired stretchability for a range of sizes of absorbent articles, and have given an example of how to achieve the desired stretchability using a combination of materials.

The claims have been amended to further clarify the features of the invention, consistent with the specification. Claim 1 has been amended to include the feature: "the waist region adjacent to the connection mechanism stretches by more than 125% of its original width, when an 800 gram force is applied to an about 4-inch wide laterally cut portion of the composite waist region" where "the connection mechanism and the adjacent waist region comprise a composite waist region." This reflects that force used to determine the stretched dimensions of the waist region is distributed across the entire 4-inch waist region and the connection tabs, rather than across individual elements of the waist region. Support for this is found in the test method described on pages 35-38 of the specification, and Figures 9 and 11, which discloses how to measure the stretchability of the article by first stretching the waist region from one connection mechanism to the opposite connection mechanism. Similarly, claims 37 and 57 and dependent claims 6, 16, 19, 22, 25, 41, and 43 have been amended in the same fashion to reflect that the claimed properties correspond to stretched measurements taken across a "4-inch laterally cut portion of the composite waist region." No new matter has been presented by these amendments.

In light of the foregoing, Applicants respectfully submit that Roe fails to anticipate claims 1-3, 6-12, 19-21, 37, 38 and 41-47, because Roe fails to inherently disclose an absorbent article having a composite waist region, whereby the stretchability of the waist region is determined when a force is applied across a 4-inch laterally cut portion of the composite waist region. Applicants therefore respectfully request reconsideration of the rejection and allowance of claims 1-3, 6-12, 19-21, 37, 38 and 41-47.

With respect to claims 4, 5, 39 and 40, the Action alleges that "Roe discloses an alternative fastening system to a tape tab using hook and loop type fasteners (column

32, lines 2-20).” Action, page 5. Claims 4 and 5 depend from claim 1, and claims 39 and 40 depend from claim 37, and therefore contain the features and limitations of the claims from which they depend. Applicants submit that for at least the same reasons discussed above that claims 1 and 37 are not anticipated by Roe, claims 4, 5, 39 and 40 also are not anticipated by Roe. Applicants respectfully request consideration of the rejection and allowance of claims 4, 5, 39 and 40.

With respect to claims 16-18 and 22-27, Applicants are not completely clear as to the Action’s grounds for rejection provided on page 5. Applicants assume that the grounds of rejection are similar to those asserted for independent claim 1 presented above. Based on this assumption, Applicants assert that the same principles explained above also apply to these claims. The properties claimed in claims 16-18 and claims 22-24 pertain to the stretchability of the same 4-inch laterally cut waist region as recited in independent claim 1, however the stretched measurements are derived from a greater force being exerted across the composite waist region (either 1000g, or 1200g). Claims 25-27 pertain to the stretchability of the adjacent connector mechanisms, derived from a 1200g force being exerted across the composite waist region. In addition, claims 16-18 and 22-27 depend from independent claim 1, and therefore contain the features and limitations of the claims from which they depend. Applicants submit that for at least the same reasons that claim 1 is not anticipated by Roe, claims 16-18 and 22-27 are also not anticipated by Roe. Applicants respectfully request reconsideration of the rejection and allowance of claims 16-18 and 22-27.

#### § 103 Rejections

On pages 5 -7 of the Action, claims 13-15, 28-33, 34-36, 48-50 and 57-62 are rejected under 35 U.S.C. §103(a) as being unpatentable over Roe, *et al.*, U.S. Patent No. 5,749,866 (“Roe”). To establish a *prima facie* case of obviousness, three basic criteria must be met: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP § 2142. The



teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on Applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Applicants respectfully submit that the burden of establishing a *prima facie* case of obviousness has not been met by the Examiner in this case. Applicants respectfully submit that the pending claims are allowable in light of Roe for at least the following reasons.

Regarding claims 13-15, 28-33, 48-50 and 57-59, the Action first alleges that Roe discloses an absorbent article with a front waist region, and a back waist region, "where the back waist region stretches 50% (therefore 150% of its original length) with 5g/cm force (column 12, lines 2-4). Therefore if an 800 gram force is applied to a 4-inch wide cut portion (800g/4inch or approximately 79 g/cm), then it is the examiners position that the waist regions will stretch more than 50%." Action, page 6. The Action further alleges that in addition to the grounds cited above for the 102 rejection

Roe also discloses the side panels extending 43 mm from the side edge of the back waist (column 26, lines 36-38) and has an available stretch of 110% (210% of the original length) (column 25, lines 55-57), the front waist and rear waist having a length of 180mm and an available stretch of 60% or 160% of the original length (column 25, line 37-50 and column 28, lines 19-28). Therefore this would give a Max stretch of the entire circumference (Max Stretch of side panels, plus Max Stretch of front waist region plus Max Stretch of back waist region), using the claimed invention where  $n=1$ , of approximately 170%. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the Max Stretch of the waist circumference to be greater than about 185%, since it has been held that discovering an optimum value of a result effective variable involved only routine skill in the art. *In re Boesch*, 617 F.2d 372, 205 USPQ 215.

Action, at pages 6-7. Applicants assert that for at least the same reasons stated above, Roe does not teach an absorbent article that has a composite waist region, whereby the stretchability of the waist region is measured when a force is applied to a 4-inch wide laterally cut portion of the composite waist region. At best, Roe teaches the stretchability of the discrete panels, measured in a 1" x 4" strip of the discrete panel

material. Roe does not contemplate the contribution to the stretchability of the waist region of inelastic materials or zones that may be present in a 4-inch wide waist region. In contrast, the presently amended claims recite an absorbent article comprising a front waist region, a back waist region, at least one target connected, whereby: "the connection mechanism and the adjacent waist region comprise a composite waist region" and the claimed dimensions are measured across the waist region of the absorbent article when an 800, 1000 or 1200 gram force "is applied to an about 4-inch wide laterally cut portion of the composite waist region." Thus, Roe fails to teach or suggest all of the elements of the present invention, as disclosed and claimed in claims 13-15, 28-33, 48-50 and 57-59.

Further, Roe does not teach any measurement about the circumference of a waist region, where the circumference of a waist includes a target connector, and a composite waist region. "A particular parameter must first be recognized as a result-effective variable... before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation." MPEP, 2144.05, subsection IIB, citing *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Roe teaches properties of discrete panels of the waist region, measured from 1"x4" samples of material, and not the measurement of a composite waist region, or the circumference of a waist region. The closest Roe comes to teaching a circumference of the diaper is in teaching how the absorbent article would be applied in use: "[t]he tape tab 40 is secured to the reinforcing strip 41, the landing member, on the chassis assembly 22 to effect a side closure. The process then is repeated with the other tape tab. Thus, the diaper is closed on the wearer and the extensible back waist feature and the other elements, if provided, provide the fit and containment benefits as described herein." Roe, col. 29, ll. 22-28.

Roe does not teach a preferred lateral dimension for the target connector. Nor does Roe teach the engagement position of the gripping connectors on the target connector. Roe does not teach or suggest that minimum circumference of the absorbent article could be measure when the gripping tabs are adjacent each other at or near the center of the target connector, nor that the maximum circumference of the absorbent article

could be measured when the gripping tabs are on the lateral-most portion of the target connector.

In direct contrast to Roe, the presently amended claims recite an absorbent article having a circumference of the waist region comprising a target connector, a waist region, and connector mechanisms, wherein the maximum stretchability of the circumference of the waist region is specified for diapers appropriate for newborn babies, crawling babies and walking babies. The stretchability of the circumference of the waist region is determined by the unstretched minimum circumference and the stretched maximum circumference. The stretched maximum circumference is described on pages 40-41 of the specification, where “[t]his maximum circumference assumes that gripping connectors 54 are attached to target connector 56 at the lateral-most edges of target connector 56.” Page 40, lines 15-17. The unstretched minimum circumference is described on pages 41-42 of the specification, where “[t]his minimum circumference therefore assumes that gripping connectors 54 are attached to target connector 56 at the center portions thereof, and the lateral most ends of the left and right gripping connectors 54 are adjacent one another on the target connector 56.” Page 41, lines 14-18. Because Roe fails to teach the measurement of a stretched or unstretched circumference of the waist region, as described and claimed in the present invention, Roe could not teach that the maximum stretchability of the circumference of the waist region is a result-effective variable, for which optimization would be a matter of routine experimentation.

In order to further clarify the features claimed invention consistent with the specification, claims 13, 28, 31, 48, 57 and 60, have been amended to include the feature that “the composite waist region and the target connector comprise a circumference of the waist region.” Support for this amendment may be found in the specification on pages 40-42, including the sections presented above, in which the method for calculating the maximum and minimum circumference is described. No new matter is presented with these amendments. Accordingly, the Applicants submit that for at least the reasons stated above, Roe fails to teach or suggest all of the elements of the present invention, as disclosed and claimed in amended claims 13-15,

28-33, 48-50 and 57-59. Applicants respectfully request entry of the amendments as presented, and reconsideration and allowance of the amended claims.

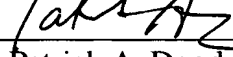
With respect to claims 34-36 and 60-62, the Action alleges that "As it would be obvious to have the MaxStretch greater than 185%... then having the MaxStretch by 185 for all of these, would result in a stretchability index of greater than 540 for each of these." Action, page 7. Applicants submit that for the same reasons given above, Roe does not teach an absorbent article having a circumference of the waist region including the target connector and the composite waist region, and having a maximum stretchability, whereby the maximum stretchability is determined from the stretched maximum circumference and the unstretched minimum circumference. As such, Roe also fails to teach an absorbent article that has a stretchability index that is determined from the maximum stretchability measured at three different forces, as recited in claims 34-36, and 60-62. Applicants respectfully request reconsideration and allowance of claims 34-36 and 60-62.

**CONCLUSION**

In view of the foregoing, applicant submits that the present claims are in condition for allowance. An early notice to that effect is earnestly solicited. Should there be any questions concerning this application, Examiner Webb is courteously invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,  
HUNTON & WILLIAMS LLP

Dated: 10/7/03

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